

Appln No. 10/622,213
Amdt date January 9, 2006
Reply to Office action of September 8, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A hinge assembly for coupling a foldable spa cover to a spa, said spa cover having an upper section and a lower section that are coupled to each other at a hinge joint and being movable between a fully closed position and a fully open position, said hinge assembly comprising:

a mounting bracket adapted to be ~~disposed~~ installed near a top of the spa;

a support arm which is pivotably coupled to the mounting bracket about an axis of rotation, and adapted to be attached on an outside surface of the lower section of the spa cover, ~~wherein the support arm is adapted to be fixedly attached to the spa cover to prevent relative rotational movement between the support arm and the spa cover; and~~

a gas spring member disposed between the mounting bracket and the support arm, wherein the gas spring member is adapted to be extended and inclined upward in a direction toward a rear end of the spa from an end coupled to the mounting bracket to another end coupled to the support arm as the spa cover is moved toward the fully open position and to form an angle of less than approximately 45 degrees with respect to the top of the spa when the spa cover is in the fully open position in which the spa cover forms an approximately 90 degree angle with respect to the top of the spa and a rear end of the spa

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cover is at or near the top of the spa, and be compressed as the spa cover is moved toward the fully closed position such that the gas spring is adapted to resist movement of the spa cover from the fully open position toward the fully closed position.

2. (Currently amended) The hinge assembly of claim 1, wherein the gas spring ~~member~~ is adapted to form an angle of between approximately 10 degrees and approximately 20 degrees with respect to the top of the spa when the spa cover is in the fully open position.

3. (Withdrawn) The hinge assembly of claim 1, wherein the support arm comprises:

an elongated member attached along a side of the spa cover;

a short member, which is pivotably coupled to the mounting bracket; and

a connecting member that forms an angle with respect to both the elongated member and the short member.

4. (Withdrawn) The hinge assembly of claim 3, wherein the spring member is connected to the short member.

5. (Previously Presented) The hinge assembly of claim 1, wherein the support arm comprises:

an elongated member adapted to be attached along a side of the spa cover;

a short member, which is pivotably coupled to the mounting bracket; and

a connecting member between the elongated member and the short member, said connecting member having a curvature.

6. (Previously Presented) The hinge assembly of claim 1, wherein the mounting bracket is mounted on a support bracket, which is adapted to be attached to a side of the spa.

7. (Withdrawn) The hinge assembly of claim 1, wherein the mounting bracket is mounted on a deck adjacent to the spa.

8. (Canceled).

9. (Currently Amended) The hinge assembly of claim 1, wherein an attachment location between the gas spring ~~member~~ and the support arm can be adjusted.

10. (Previously Presented) The hinge assembly of claim 1, wherein the support arm is adapted to be attached to the spa cover via a metal plate adapted to be disposed on the outside surface of the spa cover.

11. (Previously Presented) The hinge assembly of claim 10, wherein the metal plate is adapted to be affixed to the spa cover via a double sided tape.

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12. (Previously Presented) The hinge assembly of claim 11, wherein the metal plate has a hole formed thereon, wherein the hole is adapted such that a screw can be inserted through the hole into the spa cover, and wherein the screw is adapted to be anchored in the spa cover by rotating the screw.

13. (Currently Amended) A hinge assembly for coupling a spa cover to a spa, said foldable spa cover having an upper section and a lower section that are coupled to each other at a hinge joint and being movable between a fully closed position and a fully open position, said hinge assembly comprising:

a mounting bracket adapted to be ~~disposed~~ installed near a top of the spa;

a support arm which is pivotably coupled to the mounting bracket about an axis of rotation, and adapted to be attached on an outside surface of the lower section of the spa cover; and

a gas spring member disposed between the mounting bracket and the support arm, wherein the gas spring member is adapted to be extended and inclined upward in a direction toward a rear end of the spa from an end coupled to the mounting bracket to another end coupled to the support arm as the spa cover is moved toward the fully open position and to form an angle of less than approximately 45 degrees with respect to the top of the spa when the spa cover is in the fully open position in which the spa cover forms an approximately 90 degree angle with respect to the top of the spa and a rear end of the spa cover is at or near the top of the spa, and be compressed as the

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spa cover is moved toward the fully closed position such that the gas spring is adapted to resist movement of the spa cover from the fully open position toward the fully closed position,

wherein the support arm is adapted to be attached to the spa cover via a metal plate adapted to be disposed on the outside surface of the spa cover,

wherein the metal plate is adapted to be affixed to the spa cover via a double sided tape,

wherein the metal plate has a hole formed thereon, wherein the hole is adapted such that a screw can be inserted through the hole into the spa cover, and wherein the screw is adapted to be anchored in the spa cover by rotating the screw, and

wherein a deformable anchor is engaged with the screw, and wherein the deformable anchor is adapted to be deformed and embedded inside the spa cover as the screw is rotated.

14. (Currently Amended) A spa system comprising:

a spa;

a foldable spa cover having at least two sections including an upper section and a lower section that are coupled to each other at a hinge joint, said spa cover being movable between a fully closed position and a fully open position;

a hinge assembly for coupling the spa cover to the spa, said hinge assembly comprising:

a mounting bracket disposed near a top of the spa;

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a support arm which is pivotably coupled to the mounting bracket about an axis of rotation, and attached on an outside surface of the lower section of the spa cover, ~~wherein the support arm is fixedly attached to the spa cover to prevent relative rotational movement between the support arm and the spa cover~~; and

a gas spring member disposed between the mounting bracket and the support arm, wherein the gas spring member is extended and inclined upward in a direction toward a rear end of the spa from an end coupled to the mounting bracket to another end coupled to the support arm as the spa cover is moved toward the fully open position and forms an angle of less than approximately 45 degrees with respect to the top of the spa when the spa cover is in the fully open position in which the spa cover forms an approximately 90 degree angle with respect to the top of the spa and a rear end of the spa cover is at or near the top of the spa, and is compressed as the spa cover is moved toward the fully closed position such that the gas spring resists movement of the spa cover from the fully open position toward the fully closed position.

15. (Original) The spa system of claim 14, further comprising a metal plate used to attach the support arm to the spa cover, wherein the spa cover comprises a core and a cover, and wherein the metal plate is mounted on the outside surface of the cover.

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16. (Original) The spa system of claim 14, wherein the spa cover in the fully open position is in an upright position, in which the spa cover has not been moved downward behind the spa.

17. (Previously Presented) The spa system of claim 14, wherein the spa cover in the fully open position is completely removed from the top of the spa without moving downward.

18. (Currently Amended) A method of mounting a hinge mechanism between a spa and a foldable spa cover having a core and a cover and having an upper section and a lower section that are coupled to each other at a hinge joint, the hinge mechanism comprising a gas spring, said method comprising:

orienting the gas spring such that it is extended and inclined upward in a direction toward a rear end of the spa from an end coupled to the mounting bracket to another end coupled to the support arm as the spa cover is moved from a fully closed position to a fully open position and forms an angle of 45 degrees or less with respect to a top of the spa when the spa cover is in the fully open position in which the spa cover forms an approximately 90 degree angle with respect to the top of the spa and a rear end of the spa cover is at or near the top of the spa, and is compressed as the spa cover is moved toward the fully closed position such that the gas spring resists movement of the spa cover from the fully open position toward the fully closed position;

affixing at least one metal plate on the core or an outside surface of the lower section of the spa cover at a

location away from the hinge joint, said at least one metal plate having a hole; and

inserting a screw and an anchor engaging the screw through the hole on said at least one metal plate into the spa cover.

19. (Original) The method of claim 18, further comprising:
rotating the screw such that the anchor engaging the screw moves toward a head of the screw, whereby the anchor is deformed as it is being embedded within the core.

20. (Original) The method of claim 18, wherein the cover is fabricated using vinyl and the core is fabricated using foam material.

21. (Original) The method of claim 18, further comprising attaching a support arm to the spa cover using said at least one metal plate, wherein the support arm is hingedly coupled to a mounting bracket.

22. (Original) The method of claim 18, further comprising mounting the mounting bracket on or near a peripheral edge at a top of the spa.

23. (Previously Presented) The method of claim 26, wherein the adhesive comprises a double sided tape.

24. (Canceled).

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25. (Canceled).

26. (Previously Presented) The method of claim 18, wherein the metal plate is affixed to the outside surface of the spa cover using an adhesive, and wherein the adhesive provides sealing to the cover.

27. (New) The hinge assembly of claim 1, wherein the support arm is adapted to be fixedly attached to a side surface of the lower section of the spa cover at a location away from the hinge joint between the upper section and the lower section.

28. (New) The spa system of claim 14, wherein the support arm is fixedly attached to a side surface of the lower section of the spa cover at a location away from the hinge joint between the upper section and the lower section.